May 8, 2007

CALIFORNIA COMMISSION
ON THE FAIR ADMINISTRATION OF JUSTICE

REPORT AND RECOMMENDATIONS
REGARDING FORENSIC SCIENCE EVIDENCE

The California Commission on the Fair Administration of Justice was established by California State Senate Resolution No. 44 “to study and review the administration of criminal justice in California, determine the extent to which that process has failed in the past,” examine safeguards and improvements, and recommend proposals to further ensure that the administration of criminal justice in California is just, fair and accurate.

This Report will address issues surrounding the preparation and use of forensic science evidence in California criminal cases, and make recommendations to minimize the risk of wrongful conviction in such cases. The Commission previously addressed the California backlog in processing DNA samples taken from suspects arrested for violent felonies, entering that data into the national databank, and the delays in testing of rape kits and other DNA samples collected during criminal investigations. There are numerous other issues of justice, fairness and accuracy with regard to the availability and use of forensic evidence in the California criminal justice system, some of which will be addressed in this Report.

The Commission convened a public hearing in Sacramento, California on January 10, 2007 to address these issues. Among the experts invited to address the Commission were Peter Neufeld, Co-Director of the Innocence Project at Benjamin N. Cardozo School of Law in New York, and a member of the New York State Commission on Forensic Science; Barry Fisher, Director of the Crime Laboratory for the Los Angeles County Sheriff Department; and Lance Gima, the Chief of the Bureau of Forensic Services for the California Department of Justice. The Commission also heard testimony from William C. Thompson, Professor and Chair of the Department of Criminology, Law & Society at the University of California, Irvine; Frederic A. Tulleners, Director of the Forensic Science Graduate Program at the University of California, Davis; Susan Rutberg, Professor of Law, Golden Gate University School of Law; Bicka Barlow, Deputy Public Defender, San Francisco; Gail Abarbanel, Director, Rape Treatment Center,
The presentation of forensic science evidence is often the turning point in a criminal trial. Today, the news carries reports of erroneous forensic identifications of hair, bullets, handwriting, footprints, bite marks, and even venerated fingerprints.\(^1\) The Innocence Project at Cardozo Law School identified forensic science testing errors in 63% of 86 DNA exoneration cases analyzed, the second most common factor contributing to wrongful convictions.\(^2\) Saks & Koehler, *The Coming Paradigm Shift in Forensic Identification Science*, 309 Science 892 (Aug. 5, 2005).

As recently noted in the Report of the Ad Hoc Innocence Committee of the American Bar Association, three developments in the 1990’s dramatically altered the judicial approach to scientific evidence. *Achieving Justice: Freeing the Innocent, Convicting the Guilty* (ABA 2006). First, unlike any other forensic discipline that preceded it, DNA profiling entered the courts only after it had been extensively validated through broad research and elaborate quality assurance programs which included rigorous proficiency testing, standards for declaring a match, and the appropriate content of a report. This set a “gold standard” against which other forensic

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\(^1\) A recent analysis identifies 22 reported cases of fingerprint misattributions, including the case of Brandon Mayfield, an Oregon attorney and Muslim convert wrongfully accused of participation in the Madrid terrorist train bombing, and Stephan Cowans, convicted of shooting a police officer based on fingerprint identification and eyewitness testimony, released after serving six and a half years after he was exonerated by DNA testing. The Boston Police Department acknowledged that the fingerprint identification was erroneous. Cole, *More Than Zero: Accounting for Error in Latent Fingerprint Identification*, 95 J. of Crim. Law & Criminology 985 (2005).

\(^2\) Some confusion has arisen regarding research as to which causes of wrongful conviction are most prevalent. In this Commission’s first report, we cited studies that report mistaken eyewitness identifications was the leading cause of wrongful convictions. Report and Recommendations Regarding Mistaken Eyewitness Identification, April 13, 2006. In our third report, regarding the use of informant testimony, we cited a study which reports that false informant testimony was the leading cause of wrongful conviction in U.S. capital cases. Report and Recommendations Regarding Informant Testimony, November, 2006. The Innocence Project data includes both capital and non-capital cases in which subsequent DNA testing exonerated the defendant. It consistently concludes that eyewitness error is the leading cause of wrongful conviction, appearing in 71% of the cases, while forensic science testing errors ranks second, appearing in 63% of the cases. More than one factor was found in many cases. See http://www.innocenceproject.org/understand/Forensic-Science-Misconduct.php The forensic testing errors identified include statistical exaggeration or misinterpretation, suppression of exculpatory evidence, lying about credentials, falsified results, contamination, and experts testifying to results of tests that were never conducted.
sciences are now measured and often found wanting. Raising the standards of the other forensic disciplines is all the more critical since it is the non-DNA disciplines that comprise the bulk of the crime lab’s output. According to Barry Fisher, DNA testing constitutes approximately five percent of the work of crime labs.

Second, the decision of the United States Supreme Court in Daubert v. Merrill Dow Pharm., Inc., 509 U.S. 579 (1993), established a more rigorous standard of admissibility for expert testimony, requiring it to be based upon sufficient facts or data, the product of reliable principles and methods, and reliably applied to the facts of the case. The California Supreme Court rejected the application of the Daubert standard in California cases, People v. Leahy, 8 Cal.4th 587, 882 P.2d 321 (1994), retaining the more traditional “general acceptance” standard of Frye v. United States, 293 Fed. 1013 (D.C. Cir. 1923). The reinvigorated Frye standard has led to much closer scrutiny of scientific proof.3

The third development was the exposure of serious abuse in a number of crime labs throughout the United States. Serious misconduct of forensic experts led to the reexamination of many cases in West Virginia, Oklahoma and Montana. See, e.g., In re Investigation of the W. Va. State Police Crime Lab, Serology Div., 438 S.E.2d 501 (W. Va. 1993). The Houston Police Department shut down the DNA and Serology section of its crime laboratory in early 2003 after a television exposé revealed serious deficiencies in the lab’s procedures. Two men who were falsely incriminated by botched lab work were released after subsequent DNA testing proved their innocence. In Virginia, an independent lab confirmed that DNA tests conducted by the state lab were botched and misinterpreted in the case of a man who came within days of being executed. The governor ordered a broader investigation of the state lab to determine whether these problems were endemic. See Thompson, Tarnish on the ‘Gold Standard’: Understanding Recent Problems in Forensic DNA Testing, The Champion, Jan.-Feb. 2006, p. 10. California has occasionally endured laboratory scandals. In 1994, more than 1,000 felony convictions were jeopardized by the revelation that a San Francisco police lab technician had been certifying that samples contained illicit narcotics without performing laboratory tests. Zamora,

3 Many of the most populous states followed California’s lead in rejecting the Daubert standard, including Florida, New Jersey, New York and Pennsylvania. Some of these courts believe Frye offers greater protection for criminal defendants than Daubert. See, e.g., Ramirez v. State, 810 So.2d 836, 843 (Fla. 2001).
All three of these developments come into sharp focus particularly when DNA testing exonerates persons who had been convicted in reliance upon other forensic sciences that were either negligently or intentionally misapplied. The Commission learned of California cases in which wrongful convictions were at least partly attributable to erroneous non-DNA forensic evidence. Herman Atkins was convicted of rape in Riverside County in 1988, and sentenced to forty-five years in prison. After serving eleven years in prison for a crime he did not commit, he was exonerated by DNA testing conducted in 1999, which showed he was not the source of semen found on the victim’s sweater. His defense at trial was based on mistaken eyewitness identification. In testifying at his trial, a criminalist from the California State Laboratory at Riverside improperly testified that Atkins was included in a population of only 4.4% of the population that could have contributed the semen. In truth, because nothing foreign to the victim was seen, no male in the world could ever be excluded as a potential semen donor. Hence, 100% of the male population could be contributors. The serology data, in fact, was not probative of guilt or innocence but the jury was nonetheless misled by the state’s expert. See Atkins v. County of Riverside, No. 03-55844, 2005 U.S.App. LEXIS 19928 (Feb. 9, 2005); Testimony of Peter Neufeld, California Commission on the Fair Administration of Justice Sacramento Hearing, January 10, 2007.

Jeffrey Rodriguez, 28, was freed in San Jose on Monday, February 5, 2007. He had served 5 years of a 25 years to life sentence for a robbery under California’s “three strikes” law. In his case, a shaky eyewitness identification was corroborated by the testimony of a criminalist who claimed his pants contained a stain with a combination of motor oil and cooking oil. Such a combination would have connected him to the crime scene. Subsequent tests by a state crime lab concluded that the stain was not as described. Although at his first trial, jurors voted 11-1 to acquit, by the time of his retrial his family ran out of money, and his lawyer failed even to call the defense witnesses who had testified at the first trial. After his conviction was set aside on appeal because of ineffective assistance of counsel, the prosecution elected to drop the charges. See Tulsky, “DA’s Office Drops Charges Amid Signs of a Wrongful Conviction,” San Jose Mercury News, Feb. 6, 2007.
1. Accreditation of Laboratories and Certification of Forensic Experts.

In December, 1998, the California State Auditor reviewed nineteen local crime laboratories operated by police, sheriffs or district attorneys in California to assess their readiness to obtain accreditation under the standards developed by the American Society of Crime Lab Directors Laboratory Accreditation Board (ASCLD/LAB). To obtain accreditation, a laboratory must demonstrate that its management, operations, personnel, procedures, equipment, facility, security, and health and safety procedures meet established standards. They are also required to implement proficiency testing, continuing education, and other programs that improve the overall skills and services of laboratory personnel. The Auditor concluded that 13 of the 19 laboratories had not developed or implemented one or more of the components of a quality control system. In addition, many of the laboratories did not have proficiency testing or court monitoring programs. Through voluntary efforts, most of these shortcomings have been corrected. Seventeen of the nineteen laboratories audited in 1998 are now fully accredited by ASCLD/LAB. The Commission has concluded that further action to achieve accreditation of California publicly funded crime labs is not necessary. Private laboratories also exist, two of which are ASCLD/LAB accredited. The accreditation of private laboratories should also remain voluntary. California laboratories should be commended for their vigorous and sustained efforts to achieve accreditation voluntarily. The Commission does believe, however, that rigorous certification standards should be established and encouraged for individual forensic experts employed by the crime labs. While each laboratory sets its own hiring and promotion standards, there are no generally recognized standards to define who is qualified to perform analysis of evidence in any particular scientific discipline. We believe such standards should be formulated and applied on a statewide basis. Rigorous written examinations, proficiency testing,

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4 The Auditor noted that the 19 laboratories examined served approximately 77% of the State’s population in 13 counties. The State Department of Justice operated full-service laboratories at 11 sites to provide services to the remaining counties in the State. The audit only addressed the readiness of the 19 local labs. California State Auditor, Forensic Laboratories: Many Face Challenges Beyond Accreditation to Assure the Highest Quality Services, p. 1 (Dec. 1998). Today, the State Department of Justice operates thirteen laboratories, all of which are fully accredited by ASCLD.

5 Only the laboratories operated by the Fresno County Sheriff and the Huntington Beach Police Department have not achieved accreditation. One additional laboratory, operated by the Los Angeles County Coroner, which was not audited in 1998, has achieved accreditation.

6 Crime Scene Technologies, San Diego and Serological Research Institute, Richmond are accredited by ASCLD.
continuing education, recertification procedures, an ethical code, and effective disciplinary procedures should be part of such a program.

A program for Certification of Criminalists is currently available through the American Board of Criminalistics [ABC]. The ABC offers a certificate in criminalistics, as well as in the specialty disciplines of forensic biology, drug chemistry, fire debris analysis and trace evidence. Proficiency testing is an essential component of the ABC certification program. The Board has also adopted Rules of Ethics, and established a disciplinary procedure to deal with ethical infractions. See www.criminalistics.com. Whether through the ABC program or some other equivalent, California Crime Lab Directors should take the lead in encouraging certification by using it as a factor in promotion and salary decisions. Laboratories should provide the funds necessary for their criminalists and other forensic experts to achieve certification. Where appropriate, both prosecutors and criminal defense lawyers can provide additional motivation by presenting certification in the qualification of expert witnesses in court, and cross examining uncertified experts as to why they have not pursued certification. Many lawyers are not even aware of the existence of certification standards.

2. The Need for Independent Investigation of Laboratory Errors.

While accreditation of laboratories assures compliance with accepted standards in procedures, management and equipment, the occasional errors and even rarer instances of misconduct that occur need to be closely scrutinized to identify the cause so that corrective measures can be taken. That scrutiny should come from an independent source, not connected with the management of the laboratory itself, which may be motivated to minimize or conceal an ongoing problem. For this very reason, the recipients of federal grants under the federal Paul Coverdell Forensic Science Improvement Grant Program are required to certify that:

… a government entity exists and an appropriate process is in place to conduct independent external investigations into allegations of serious negligence or misconduct substantially affecting the integrity of forensic results committed by employees or contractors of any forensic laboratory system, medical examiner’s office, coroner’s office, law enforcement storage facility, or medical facility in the State that will receive a portion of the grant amount.
California receives Coverdell grant funds each year, which are disbursed by the Governor’s Office of Emergency Services, Law Enforcement and Victim Services Division (OES). In 2005, $1.1 million was received, and in 2006, $1.2 million was received. The OES requires each subgrantee to certify to the presence of an oversight process and describe that process. The Commission examined the oversight entity described by each of the California recipients, which included the State Department of Justice Bureau of Forensic Services, the Sheriff’s Departments of eleven counties, and six municipal police departments and three District Attorney’s offices which operate their own laboratories. In nearly every instance, the independent auditing entity described was the Internal Affairs Division of the County Sheriff’s Office or Police Department involved.7

The Commission believes that public confidence in the independence of investigations of negligence or misconduct in the preparation or presentation of forensic evidence in criminal cases requires the involvement of a government entity that is truly independent of the police and sheriff agencies that operate the laboratories. Not all forensic laboratories, coroner’s offices or medical examiner’s offices in California are recipients of Coverdell grants, and may not have any oversight entity in place. The application of uniform standards requires consistency in the operation of the investigative function. Moreover, some of the forensic functions that prosecutors rely upon occur outside of government laboratories. Often there are small forensic operations embedded in police departments, and sometimes the expert is an independent contractor hired directly by the prosecutor (e.g., a forensic dentist opining on bite marks). The transparency of the investigative process will be hampered by a myriad of entities with varying regulations regarding disclosure of the results.

The State of Texas recently responded to a similar need with the creation of the Texas Forensic Science Commission. The Commission was charged with developing and implementing a reporting system through which accredited laboratories, facilities, or entities report professional negligence or misconduct, and:

. . . investigate, in a timely manner, any allegation of professional negligence or misconduct that would substantially affect the integrity

7 The exception was the Santa Clara County Crime Lab operated by the Santa Clara County District Attorney’s Office, which designates the State Attorney General for independent audits under its Coverdell Grants.
of the results of a forensic analysis conducted by an accredited laboratory, facility or entity.

Article 38.01, Texas Code of Criminal Procedure, enacted in 2005. The Commission considered the creation of a Commission similar to the Texas model, but concluded a new level of bureaucracy is not necessary to achieve the stated goals in California. We believe the District Attorneys in each county can be relied upon to evaluate allegations of negligence or misconduct occurring in all laboratories within their county, and conduct an independent investigation where appropriate. District Attorneys can call upon the Attorney General for any additional investigative resources needed to carry out this function. County District Attorneys would have the necessary authority and independence to evaluate allegations of negligence or misconduct in the thirteen laboratories operated by the California Department of Justice as well. The results of all such independent investigations should be reported to the California Attorney General, who already has the requisite authority to maintain oversight over California District Attorneys.8 Where a local laboratory is actually operated by the District Attorney himself or herself, as is currently the arrangement in Santa Clara, Sacramento and Kern Counties, independent examinations of allegations of negligence or misconduct should be conducted by the California Attorney General.

The Commission has not addressed the procedures and policies that should be implemented when an allegation of negligence or misconduct has been sustained. There is compelling authority, however, that such information would qualify as material evidence which should be disclosed to the defendant pursuant to the obligations imposed by Brady v. Maryland, even after conviction.9

8 California Government Code Section 12550 provides: “The Attorney General has direct supervision over the district attorneys of the several counties of the State and may require of them written reports as to the condition of public business entrusted to their charge.”

9 The prosecution has an independent, self-executing duty under the Constitution of the United States to disclose discovery material under Brady v. Maryland, 373 U.S. 83, 87 (1963). See People v. Gonzales, 51 Cal. 3d 1179, 1260-61 (1990) (noting the State's obligation to disclose Brady material continues after trial); Thomas v. Goldsmith, 979 F.2d 746 (9th Cr. 1992) (recognizing the State's continuing post-judgment obligation to disclose exculpatory information).
3. The Need for Forensic Science Standards in California.

The Commission believes that there is a need in California for the promulgation of standards for scientific testing, report writing, and the parameters of appropriate expert testimony, as well as for greater circulation of information to all participants in the criminal justice system, and better training for those who testify as experts on any aspect of forensic science.

The Forensic Science Board created by the State of Virginia provides some of these functions. The Board is charged with the power and duty to ensure the development of long-range programs and plans for the incorporation of new technologies as they become available. It reviews, amends and approves recommendations of a Scientific Advisory Committee, which in turn is charged with the following responsibilities:

A. The Committee may review laboratory operations of the Department and make recommendations concerning the quality and timeliness of services furnished to user agencies.

B. The Committee shall review and make recommendations as necessary to the Director of the Department and the Forensic Science Board concerning:
   1. New scientific programs, protocols, and methods of testing;
   2. Plans for the implementation of new programs, sustaining existing programs and improving upon them where possible, and the elimination of programs no longer needed;
   3. Protocols for testing and examination methods, and guidelines for the presentation of results in court; and
   4. Qualification standards for the various scientists of the Department, including the Director.

C. Upon request of the Director of the Department, the Forensic Science Board, or the Governor, the Committee shall review analytical work, reports and conclusions of scientists employed by the Department. The Committee shall recommend to the Forensic Science Board a review process for the Department to use in instances where there has been an allegation of misidentification or other testing error made by the Department during its examination of evidence.


Continuing education and training of forensic science experts is essential to maintain their competency in scientific fields that are constantly
changing and improving. A recurring problem of resource allocation in laboratories arises when personnel must devote substantial time and effort to on-site training of individuals or small groups of employees. There is currently no State entity in California which addresses the needs for statewide training and continuing education programs which would consolidate and address the training needs of laboratories and law enforcement agencies throughout the state. In addition to the promulgation of standards, such an entity could serve as a source for coordinated training and continuing education of forensic science experts. It would also provide a valuable service to the entire criminal justice system, by serving as a source of up-to-date information regarding new developments in the forensic sciences. Research needs and opportunities could be identified and funded, such as research utilizing the growing DNA database.

The Commission believes the creation or designation of an entity in California to assume these responsibilities should be preceded by an opportunity for the Forensic Science community and all affected criminal justice agencies to be heard from, to elicit a wide spectrum of views as to how these needs can best be met. The legislature should undertake an examination of the comparative merits of the alternatives that are available, including the assignment of this responsibility to the California Attorney General. Legislation has already been proposed for the creation of a “Crime Laboratory Review Task Force” to address some, but not all of these concerns. [See A. B. No. 1079, Introduced by Assembly Member Richardson on February 23, 2007]. This legislation, supported by the Attorney General, could provide an excellent vehicle to elicit the input the Commission is recommending.


The diversity of disciplines which become the subject of expert scientific evidence and the rapid developments in new technology present serious challenges for the California judiciary. Judges need up-to-date training to assist them in their evaluation of scientific evidence and expert testimony. Recognizing this need, in February, 2005 Chief Justice Ronald M. George of the California Supreme Court established the Judicial Council Science and the Law Steering Committee, to evaluate the needs of the courts, including guidance in developing effective education strategies and pertinent educational content. The Committee, chaired by Associate Justice
Ming Chin, issued its recommendations on January 10, 2007. The recommendations include a comprehensive plan to establish a statewide judicial education plan on science and technology. On February 10, 2007, the Committee issued a second set of recommendations to improve the judicial management of issues regarding science, technology and the law. These recommendations include a number of projects and resources to facilitate the exchange of information between the courts and the science and technology communities, to assess emerging issues and potential partnerships relating to science, technology and the law. The Commission commends and encourages these efforts.

The recurring need for prosecutors and defense lawyers to have up-to-date training in issues surrounding forensic science evidence is obvious. The challenge is to provide the resources to free overworked and heavily burdened deputies to participate in training programs. Specialized programs in DNA or other categories of scientific evidence will reach only a small proportion of the deputies who confront such issues on a day to day basis. The Commission recommends greater creativity in delivering needed training, including more on-line resources for in-office training, available on a state-wide basis. Cooperative ventures should also be encouraged, to combine the training of deputy district attorneys with the training of public defenders and defense attorneys. The essential understanding of the science involved transcends the issues of tactics that may need to be addressed in a more exclusive setting.

The traditional reliance upon the adversary system to expose errors may break down when it comes to forensic science evidence. Many of the examples of wrongful convictions attributable to misconduct or negligence by forensic experts could have been avoided if defense lawyers were fully competent to challenge the evidence. But the shortcomings of defense representation go beyond the problem of education and training. There may be serious problems with regard to the availability of experts and resources for expert assistance for defense lawyers. The Commission intends to explore such problems in addressing the issues surrounding incompetence of defense attorneys in a future report.
Recommendations.

(A) The California Commission on the Fair Administration of Justice recommends that California Crime Lab Directors encourage the certification of the forensic experts they employ, and use certification wherever possible as a basis for promotion and salary decisions.

(B) The California Commission on the Fair Administration of Justice recommends that legislation be enacted to require that any allegation of professional negligence or misconduct that would affect the integrity of the results of a forensic analysis conducted by a California laboratory, facility or entity be reported in a timely manner to the District Attorney or other appropriate prosecutorial agency, and to require the District Attorney or other prosecutorial agency to which such allegations are reported to report the results of any independent investigations of such allegations to the State Attorney General.

(C) The California Commission on the Fair Administration of Justice recommends that the legislature consider the creation or designation of a governmental agency or commission (which could be the office of the California Attorney General) with the power and duty to formulate and apply standards to define who is qualified to perform analysis of evidence in any particular scientific discipline on a statewide basis. The creation or designation of such an entity should be preceded by an opportunity for the Forensic Science community and all affected criminal justice agencies to be heard from, to elicit a wide spectrum of views as to how these needs can best be met. A.B. 1079, currently pending before the legislature, could provide an excellent vehicle to elicit this input. Rigorous written examinations, proficiency testing, continuing education, recertification procedures, an ethical code, and effective disciplinary procedures could be part of such a program. Such an agency could also promulgate standards for scientific testing, report writing, and the parameters of appropriate expert testimony; provide information to all participants in the criminal justice system regarding the evidentiary validity of forensic science evidence; identify and fund research needs and opportunities; and provide state-wide training programs for forensic experts.

(D) The California Commission on the Fair Administration of Justice recommends that training programs for California prosecutors, defense
lawyers, judges and police investigators be expanded to include greater attention to the appropriate use and validity of forensic science evidence.

Respectfully submitted,

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*Commissioner Totten does not concur in Recommendation (C). While he supports the need for additional training and the establishment of additional professional standards, he does not support the creation of a new state agency to oversee crime labs or the assignment of this responsibility to an
existing state agency. He believes that doing so will increase state bureaucracy without producing a measurable improvement in forensic services or accuracy.